edge to an outer edge, for rolling said rolling dies in a state where said conical incline is contacted to the joined surface of said steel member in a direction perpendicular to said joined surface of said steel member and pressed by a prescribed pressure, so as to forma a slip-proof surface having corresponding concentric recessed and projected parts on the joined surface of said steel member, whereby a change of the radius of curvature of the edge parts from the inner edge to the outer edge thereof is preselected to a change of the radius of curvature of the corresponding concentric recessed and projected parts; and

steel member sending means for sending said steel member with said formed slip-proof surface from said working table to the outside, wherein

said steel member is non-bent or non-curved to form said slip-proof surface.

3. (Amended) A processing tool utilized for having joined surfaces of first and second steel members overlapped each other and fixing said first and second steel members with a pressure by a connecting member passing through connecting holes drilled in said first and second members, so as to join said first and second steel members, comprising:

rolling dies having a rolling edge that has one or plural concentric edge parts on a conical incline each composed of a mountain-shaped portion and a valley-shaped portion having a radius of curvature and extending from an inner edge to an outer edge, which is rolled in a state where said conical incline is contacted to the joined surface of said steel member in a direction perpendicular to said joined surface of said steel member and pressed by prescribed pressure, so as to form a slip-proof surface having corresponding concentric recessed and projected parts on the joined surface of said steel member each having a corresponding radius of curvature, whereby a change of the radius of curvature of the edge parts from the inner edge to the outer edge thereof is preselected to a change of the radius of curvature of the corresponding concentric

recessed and projected parts, and said steel member is non-bent or non-curved to form said slip-proof surface.

4. (Amended) A steel member utilized for having joined surfaces of first and second steel members overlapped each other and fixing said first and second steel members with a pressure by a connecting member passing through connecting holes drilled in said first and second members, so as to join said first and second steel members, comprising:

a slip-proof surface having corresponding concentric recessed and projected parts each composed of a mountain-shaped portion and a valley-shaped portion having a corresponding radius of curvature, on a joined surface, which is formed by rolling dies having a rolling edge that has one or plural concentric edge parts on a conical incline each having a radius of curvature in a state where said conical incline is contacted to said joined surface in a direction perpendicular to said joined surface of said steel member and pressed by a prescribed pressure,

whereby a change of the radius of curvature of the edge parts from the inner edge to the outer edge thereof is preselected to a change of the radius of curvature of the corresponding concentric recessed and projected parts, and said joined surface is non-bent or non-curved to form said slip-proof surface.--

Please rewrite claims 7-9 as follows:

--7. (Amended) Steel members comprising:

first and second steel members to be mutually joined by having first and second joined surfaces thereof mutually overlapped and to be fixed with a pressure by a connecting member passing through first and second connecting holes drilled in said first and second steel members respectively, and wherein

with respect to the joined surface of said first steel member, before joining with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface having corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions is formed around said connecting holes of said first steel member by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

with respect to the joined surface of said second steel member, before joining, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge, a second slip-proof surface having corresponding concentric projected and recessed parts composed of concentric grooved portions and mountain-shaped portions is formed around said connecting holes of said second steel member by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes;

when joining, said first and second steel members are joined with said first and second slip-proof surfaces overlapped wherein said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said grooved portions of said concentric recessed and projected parts of said second slip-proof surface, and said grooved portions of said concentric recessed and projected parts of said first slip-proof

surface is matingly fitted with said mountain-shaped portions of said concentric recessed and projected parts of said second slip-proof surface; and

said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces.

8. (Amended) Steel members comprising:

first and second steel members to be mutually joined by having first and second joined surfaces thereof mutually overlapped and then fixed with a pressure by a connecting member passing through first and second connecting holes drilled in said first and second steel members respectively, and wherein

with respect to the joined surface of said first steel member, before joining, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface having corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions is formed around said connecting holes of said first steel member by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

when joining, said first and second steel members are joined with said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface of said first steel member being embedded in a joined surface of said second steel member according to the pressure strength of said connecting member; and

said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces.

9. (Amended) A steel member joining apparatus comprising:

first and second connecting holes drilled in the top ends of first and second joined surfaces of first and second steel members to be mutually overlapped so as to pass through said first and second steel members, wherein:

with respect to the joined surface of said first steel member, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface having corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions is formed around said connecting holes of said first steel member by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

with respect to the joined surface of said second steel member, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge, a second slip-proof surface having corresponding concentric projected and recessed parts composed of concentric grooved portions and mountain-shaped portions is formed around said connecting holes of said second steel member by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes;

said first and second steel members are joined with said first and second slip-proof surfaces overlapped wherein said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said grooved portions of said concentric recessed and projected parts of said second slip-proof surface, and said grooved portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said mountain-shaped portions of said concentric recessed and projected parts of said second slip-proof surface; and

said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces.--

Please rewrite claims 11-16 as follows:

--11. (Amended) Steel members comprising:

first and second steel members to be mutually joined, wherein:

first and second connecting holes are drilled in the top end where said first and second steel members are mutually overlapped so as to pass through said first and second steel members;

with respect to the joined surface of said first steel member, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface having corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions is formed around said connecting holes of said first steel member by rolling said first conical inline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

with respect to the joined surface of said second steel member, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge, a second slip-proof surface having corresponding concentric projected and recessed parts composed of concentric grooved portions and mounting shaped portions is formed around said connecting holes of said second steel member by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes; wherein:

when said first and second steel members are clamped by said connecting member passing through said first and second connecting holes, said first and second steel members are fixed by clamping in the thickness direction by said connecting member passing through said first and second connecting holes of said first and second steel members with said first and second slip-proof surfaces overlapped wherein said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said grooved portions of said concentric recessed and projected parts of said second slip-proof surface, and said grooved portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said mountain-shaped portions of said concentric recessed and projected parts of said second slip-proof surface; and

said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces.

12. (Amended) A strut reinforcing member to be used in the frame structure part of a steel frame structure comprising:

a first steel member of which the bottom end is to be fixed to said frame structure part, and having a first connecting hole drilled in the top end so as to pass through said first steel member; and

a second steel member having a second connecting hole drilled in the top end so as to pass through said second steel member, and a tension member fixed to the other end; and wherein:

with respect to the joined surface of said first steel member, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface having corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions is formed around said connecting holes of said first steel member by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

with respect to the joined surface of said second steel member, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge, a second slip-proof surface having corresponding concentric projected and recessed parts composed of concentric grooved portions and mountain-shaped

portions is formed around said connecting holes of said second steel member by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes, wherein;

said first and second steel members are fixed by clamping in the thickness direction by said connecting member passing through said first and second connecting holes of said first and second steel members with said first and second slip-proof surfaces overlapped wherein said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said grooved portions of said concentric recessed and projected parts of said second slip-proof surface, and said grooved portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said mountain-shaped portions of said concentric recessed and projected parts of said second slip-proof surface; and

said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces.

13. (Amended) A reinforcing member having a junction member at the both ends of a tension member to join the said tension member to a steel-frame structure and supporting a tensile load from the steel-frame structure by said tension member, wherein:

said junction member comprises:

a first plate junction steel member to be fixed to said steel-frame structure side, and a second plate junction steel member to be fixed to said tension member side, and

a clamping member for clamping said first and second junction steel members in a state where said clamping member passes through first and second

through holes respectively drilled into said first and second junction steel members;

with respect to the joined surface of said first plate junction steel member, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface having corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions is formed around said connecting holes of said first steel member by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

with respect to the joined surface of said second plate junction steel member, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge, a second slip-proof surface having corresponding concentric projected and recessed parts composed of concentric grooved portions and mountain-shaped portions is formed around said connecting holes of said second steel member by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes, wherein;

said first and second plate junction steel members are fixed by clamping in the thickness direction by said connecting member passing through said first and second connecting holes of said first and second steel members with said first and second slip-proof surfaces

overlapped wherein said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said grooved portions of said concentric recessed and projected parts of said second slip-proof surface, and said grooved portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said mountain-shaped portions of said concentric recessed and projected parts of said second slip-proof surface; and

said first and second junction steel members are non-bent or non-curved to form said first and second slip-proof surfaces.

14. (Amended) A reinforcing member having a junction member at the both ends of a tension member to join the said tension member to a steel-frame structure and supporting a tensile load from the steel-frame structure by said tension member,

wherein:

said junction member comprises;

a first plate junction steel member to be fixed to said steel-frame structure side,

a second plate junction steel member to be fixed to said tension member side, and

a clamping member for clamping said first and second junction steel members in a state where said clamping member passes through first and second through holes respectively drilled in said first and second junction steel members; and wherein

with respect to the joined surface of said first steel member, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each

composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface having corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions is formed around said connecting holes of said first steel member by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

with respect to the joined surface of said second steel member, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge, a second slip-proof surface having corresponding concentric projected and recessed parts composed of concentric grooved portions and mountain-shaped portions is formed around said connecting holes of said second steel member by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes, wherein;

said first and second steel members are fixed by clamping in the thickness direction by said connecting member passing through said first and second connecting holes of said first and second steel members with said first and second slip-proof surfaces overlapped wherein said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said mountain-shaped portions of said concentric recessed and projected parts of said second slip-proof surface; and

said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces.--

15. (Amended) The reinforcing member according to claim 14, wherein;

said clamping member has a collar part at the outer circumferential part on a surface contacting to said overlapped first and second junctions steel members so as to form a hollow part inside on said through hole side.

16. (Amended) A frame structure apparatus comprising:

a frame structure in which the both ends of four steel members are mutually overlapped and joined at the four corner parts;

each said corner part of said frame structure comprises:

a connecting hole drilled in the top end where first and second steel members to be mutually joined are mutually overlapped so as to pass through said first and second steel members;

a connecting member for fixing said first and second steel members by passing through said connecting holes of said first and second steel members and clamping said first and second steel members in the thickness direction, and

first and second slip-proof surfaces having plural pairs of concentric recessed and projected parts that have one or plural concentric edge parts and grooves on the joined surfaces of said first and steel members; and

with respect to the joined surface of said first steel member, with first rolling dies having a rolling edge that has one or plural concentric edge parts on a first conical incline each composed of a mountain-shaped portion and a valley-shaped portion, having a radius of curvature, and extending from an inner edge to an outer edge, a first slip-proof surface is formed

to have corresponding concentric recessed and projected parts composed of concentric mountain-shaped portions and grooved portions by rolling said first conical incline of said first rolling dies along with the locus of the concentric circle focusing said connecting holes;

with respect to the joined surface of said second steel member, with second rolling dies having a rolling edge that has on one or plural concentric edge parts on a second conical incline each composed of a valley-shaped portion alternating with said mountain-shaped portion of said first rolling dies and a mountain-shaped portion alternating with said valley-shaped portion of said first rolling dies, having said radius of curvature, and extending from an inner edge to an outer edge, a second slip-proof surface is formed to have corresponding concentric projected and recessed parts composed of concentric grooved portions and mountain-shaped portions by rolling said second conical incline of said second rolling dies along with the locus of the concentric circle focusing said connecting holes, wherein;

said first and second steel members are fixed by clamping in the thickness direction by said connecting member passing through said first and second connecting holes of said first and second steel members with said first and second slip-proof surfaces overlapped wherein said mountain-shaped portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said grooved portions of said concentric recessed and projected parts of said second slip-proof surface, and said grooved portions of said concentric recessed and projected parts of said first slip-proof surface is matingly fitted with said mountain-shaped portions of said concentric recessed and projected parts of said second slip-proof surface; and

said first and second steel members are non-bent or non-curved to form said first and second slip-proof surfaces.--